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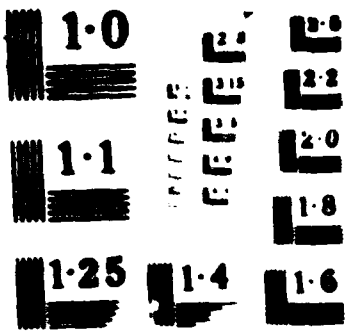
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Technical Report No. 8

Soluble Metal Chelate Polymers of Coordination Numbers Six, Seven and Eight

by

R. D. Archer, B. Wang, V. J. Tramontano, A. Y. Lee, and V. O. Ochaya

Symposium Abstract for International Symposium on Inorganic and Organometallic Polymers, Denver, CO

Department of Chemistry
University of Massachusetts
Amherst, MA 01003

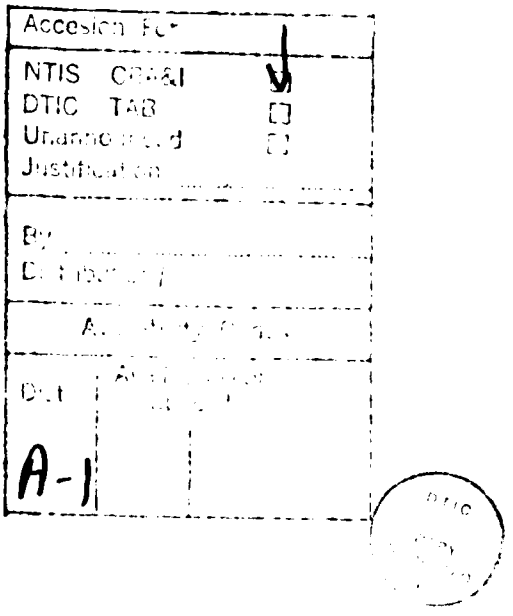
April 1987

* **SOLUBLE METAL CHELATE POLYMERS OF COORDINATION NUMBERS SIX, SEVEN & EIGHT**

R. D. Archer, B. Wang, V. J. Tramontano, A. Y. Lee, and V. O. Ochaya,
Department of Chemistry, University of Massachusetts, Amherst, MA 01003.

Metal coordination polymers possess certain properties (radiation sensitivity, catalytic activity, unique connectivities, etc.) which can provide advantages over their organic counterparts. However, careful design is necessary to avoid intractability, which has plagued metal chelate macromolecules in the past. Nonrigid coordination centers, bulky groups to prevent stacking, strong coordinating solvents, oxometal centers, and nonlinear connections in octahedral systems are all being used to counter the insolubility of the more common four-coordinate systems. Circumventing the problems of low ligand solubility, inert metal centers which react too slowly to make good polymers, and labile metal centers which don't produce very inert species will be discussed in connection with new zirconium(IV) adhesives and radiation sensitive cobalt(III) and dioxouranium(VI) polymers, for which definitive connectivity and chain lengths have been well defined.

*Abstract of paper to be presented at the International Symposium on Inorganic and Organometallic Polymers at the American Chemical Society National Meeting in Denver, Colorado on April 9, 1987.



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